

## Remarks

Entry of the foregoing amendments and reconsideration of the application are respectfully requested. Claims 1–29 are pending in the application, with claims 1, 7 and 23–27 being independent. Claims 28 and 29 are new. Claims 1, 7, and 23–27 have been amended. Support for the new claims 28 and 29 can be found in the first paragraph of the Detailed Description of the Invention and support.

## Rejection under 35 U.S.C. § 103

Claims 1–5, 7–11, 13–15, 19, 20, and 23–27 are rejected under 35 USC § 103 as unpatentable over Cohen (US Patent No. 5,736,473) in view of Hamilton (US Patent No. 6,562,192). The Examiner states that “. . . the claims under examination are drawn to a mixture of wax, a superabsorbent material, and a “channeling agent” however both Cohen and Hamilton are drawn to absorbent materials that include these materials as set forth on the record in this application.” This rejection is traversed.

Amended independent claims 1, 7, 23–27, recite in part “a channeling agent that conducts liquid water through the wax to the superabsorbent but does not conduct water vapor.” Independent claims 23 and 25 recite in part “a superabsorbent encapsulated in a wax having a channeling agent therein.” Applicants respectfully submit that Cohen in view of Hamilton does not disclose the invention as claimed in independent claims 1, 7, 23–27.

Cohen discloses a “method of attaching a substantially uniform distribution of particulates to individual exposed surfaces of a matrix of fibrous material (e.g., individual fiber surfaces)” (Column 3, lines 56–59). The fibrous material matrix may

include secondary materials that are entrapped within the matrix, such as super-absorbent materials (Column 5, lines 25–30). The particulates that are attached to individual exposed surfaces of the fibers by non-transient bonding may be modified pulps such as microcrystalline cellulose (Columns 3–4, lines 55–10 and Columns 5–6, lines 65–5). The fibers may be made from thermoplastic material, such as wax (Column 3, lines 1–5, Column 2, lines 38–44).

Cohen never suggests that the superabsorbent materials, microcrystalline cellulose and wax form a liquid absorbing mixture having a channeling agent that conducts liquid water to the superabsorbent, but does not conduct water vapor. On the contrary, Cohen suggests that the fibers, which may be made of a wax material, may have superabsorbent materials *entrapped within* the matrix of fibers and particulate microcrystalline cellulose *bound to* the fibrous matrix. The superabsorbent materials within the matrix between the fibers and microcrystalline cellulose bound to the fibers in the matrix are not disclosed as being mixed together. **Because Cohen's superabsorbent materials and microcrystalline cellulose are dispersed within different regions of the matrix (entrapped within or bound to the matrix fibers, respectively), the microcrystalline cellulose in Cohen can't conduct water, whether liquid or vapor, to the superabsorbent. That is, the superabsorbent in Cohen will be exposed to both liquid water and water vapor. Further, Cohen never suggests a superabsorbent encapsulated in a wax (Claims 23–27). Applicants submit that superabsorbent materials merely entrapped in a matrix made from wax fibers does not suggest encapsulating a superabsorbent material in a wax. Thus, Cohen does not suggest all the claim limitations.**

Hamilton does not cure these defects. Hamilton discloses that nits and other particles such as superabsorbent particles can be incorporated into an absorbent

article for the absorption of body fluids or other liquids (Column 29, lines 5–9). The nits can be contained in a pouch 36, with or without superabsorbent particles (Column 25, lines 25–29). The nits are made of any papermaking fibers, as well as other cellulosic or absorbent polymer fibers capable of forming nits. (Column 19, lines 23–25). The nits can be “treated. . .with nit conditioners such as . . .a wax. . .to modify fiber–fiber interactions during dispersing and/or modify particle–particle interactions once incorporated into absorbent articles” (Column 21, lines 40–46). **Hamilton never suggests that the treated nits contain a channeling agent such as microcrystalline cellulose.** Thus, the superabsorbent particles in the pouch of an absorbent article will be directly exposed to both liquid water and water vapor.

Hamilton also does not suggest that the superabsorbent is encapsulated in a wax (Claims 23–27). The Examiner states that “[t]he argument that Hamilton does not include superabsorbent materials is refuted by the teachings of Hamilton in column 25, lines 26 to 47 where the reference expressly suggests including superabsorbents in the materials taught therein.” However, Applicants respectfully submit that the Examiner has mischaracterized the reference. Column 25, lines 26–47 states that the superabsorbent materials can be *combined* with nits in a pouch. **The nits are not made from superabsorbent materials.** Hamilton specifically discloses that:

The pouch 36 is almost entirely filled with free-flowing particles 38 such as nits. Complete filling with nits does not pose any serious problem in use since the nits do not expand substantially upon wetting. If substantially swellable materials were also present, such as superabsorbent particles, the pouch 36 can be only partially filled . . . (Columns 34–35, lines 66–5).

Hamilton merely puts nits treated with wax in a pouch to improve lubricity in a pouch. The pouch may also contain superabsorbent particles. Hamilton does not teach the claim limitation of a *superabsorbent* encapsulated

in a wax and there is no teaching, suggestion or motivation to coat the superabsorbent material with wax.

In the Final Office action, the Examiner states "Hamilton expressly suggests using waxes to improve processing of such absorbent materials as set forth on page 2 of the last Office action. . . ." The Examiner states on page 2 of the first Office action, "Cohen does not teach that the wax contains the superabsorbent. As shown by Hamilton, it was known in the art of *absorbent materials* and articles that including a wax coating on such fibers or "nits" improved the particle to particle interaction of such materials" (emphasis added).

Applicants submit that Hamilton actually teaches away from the treated nits being made of *superabsorbent material*. As explained in Hamilton in Columns 34–35, lines 66–5, as provided above, it is *undesirable* to have nits that swell substantially upon wetting. Hamilton further states in Column 28, lines 32–33 that "the free-flowing particles [i.e., the nits] can be absorbent but substantially non-swelling." If the nits were made of superabsorbent, the pouch may rupture upon wetting if the pouch is filled entirely with the nits as set forth in Columns 34–35, lines 66–6. In fact, Applicants respectfully submit that the proposed modification of Hamilton, that is using superabsorbent material rather than absorbent material for the nits, would render the Hamilton reference unsatisfactory for its intended purpose. Therefore, there is no suggestion or motivation to make the modification proposed by the Examiner.

In summary, Applicants respectfully submit that Cohen in view of Hamilton does not suggest the claim limitations of "the channeling agent conducts liquid water to the superabsorbent but does not conduct water vapor"

as claimed in claims 1, 7, 23–27 or “a superabsorbent encapsulated in a wax having a channeling agent therein” as claimed in claims 23, 25, and 27–29. Further, Hamilton actually teaches away from making the nits from a superabsorbent material and there is no suggestion or motivation to make the modification proposed by the Examiner.

As claims 2–5, 15, and 28 depend from independent Claim 1 and include all the limitations thereof, and Claims 8–11, 13, 14, 19, 20 and 29 depend from independent Claim 7 and include all the limitations thereof, these claims are also believed to be in condition for allowance as discussed above.

#### **Rejection under 35 U.S.C. § 112**

The Examiner rejected claims 24, 26, and 27 under 35 USC § 112, first paragraph, because the specification is not enabling for the broad genus of “liquid water absorbing compound” of Claims 24 and 26 or “water absorbing means for absorbing liquid water” and “means for encapsulating said water absorbing means” of Claim 27. Specifically, the Examiner asserts that “the rejection under 35 USC 112, 1<sup>st</sup> paragraph is maintained as the applicant has only presented a limited number of components that would provide the properties now claimed.”

Applicants submit that the specification allows one skilled in the art to practice the claimed invention given the level of knowledge and skill in the art. The specification provides a broad list of materials which may be used in the present invention as the “liquid water absorbing compound” and “water absorbing means” of claims 24, 26, and 27. For example, as disclosed in the specification, superabsorbents and “other highly absorbent compounds such as

cellulose, starches, alginates and gums may be used as liquid water absorbents” (page 3–4 of the specification). Applicants submit that this is not a “small number of materials that would meet the aims of the present invention” as the Examiner has asserted, but rather, a broad representative list of well-known classes of absorbent materials. For example, as cited in US Patent Nos. 5,433,715, 5,509,915, 5,527,300, 5,593,399, 5,605,735, 5,827,259, 5,904,675:

. . . polymers suitable for use in the absorbent structure include natural and modified natural polymers, such as hydrolyzed acrylonitrile-grafted starch, acrylic acid grafted starch, methyl cellulose, carboxymethyl cellulose, hydroxypropyl cellulose, and the natural gums, such as alginates, xanthan gum, locust bean gum and the like.

Therefore, Applicants submit that the specification is enabling for a “liquid water absorbing compound” and “water absorbing means.”

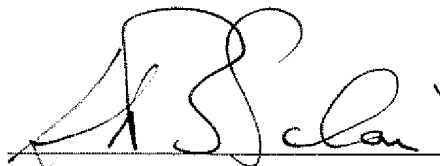
Claim 27 was also rejected under 35 U.S.C. 112, first paragraph because, according to the Examiner, the term “means for encapsulating” is too broad. The test for enablement under 35 U.S.C. 112 is whether a person skilled in the art can make and use the invention without undue experimentation MPEP 2164.08. As long as the specification discloses at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim, then the enablement requirement is satisfied. Further, a means plus function claim covers the corresponding materials described in the specification and equivalents thereof. In this case, the

specification discloses several waxes that can be used as "means for encapsulating water absorbent materials" including animal waxes, vegetable waxes and synthetic type waxes (page 4 of the specification). A person skilled in the art would be able to make and use the invention using any of the waxes described in the specification and any equivalents thereof without undue experimentation. Therefore, Applicants submit that the specification is enabling for "means for encapsulating."

### Conclusion

Each of the matters in the Office action having been addressed, reconsideration and favorable action are requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "S. Salai", written over a horizontal line.

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